blood work
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Don't judge lymphocytosis by its flow

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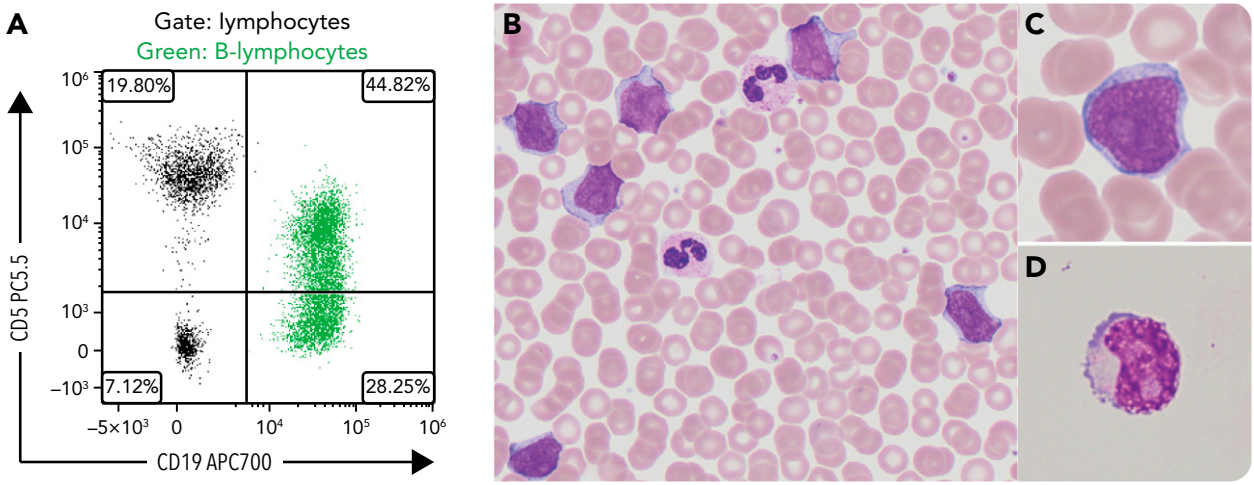

A 76-year-old man who presented with an absence seizure was referred from a local center for further diagnostic examination of an asymptomatic isolated lymphocytosis (8.5 × 10^9/L). Flow cytometry analysis revealed circulating κ-restricted monotypic B cells, positive for CD19/$CD5^{partial}$/CD79b/FMC7/cytoplasmicBcl2 and negative for CD200/CD23/CD10/CD38/nuclearBcl6 (panel A), suggestive of mantle-cell lymphoma (MCL). However, a blood smear examination revealed cells harboring predominantly round nuclei with prominent nucleoli surrounded by basophilic cytoplasm, highly suggestive of prolymphocytes (May Grunwald Giemsa [MGG]; panel B; original magnification, ×50; panel C; original magnification, ×100). Cytogenetic analysis found an MYC/IGH rearrangement, without CCND1/IGH fusion. Molecular analysis identified IGH somatic hypermutation (SHM) and an IGHV3 clonal rearrangement without *TP53* mutation. A fluorodeoxyglucose-positron emission tomography-computed tomography scan excluded nodal or extranodal infiltration, but examination of cerebrospinal fluid detected the same clone (panel D; MGG, original magnification, ×100). These findings established the diagnosis of B-cell prolymphocytic leukemia (B-PLL) with meningeal involvement.

Twenty to 30% of cases of B-PLL involve expression of CD5. CD200 expression may be negative or weak. The initial immunophenotype suggested MCL. However, in this case, blood smear morphology strongly suggested B-PLL, confirmed by the absence of *CCND1* rearrangement, the presence of a *MYC* translocation, and IGH SHM with a clonal IGHV3. This case highlights the importance of an integrated diagnostic workup in cases of lymphocytosis, including cytomorphology, flow cytometry, cytogenetics, and molecular analyses.

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